

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
29 December 2004 (29.12.2004)

PCT

(10) International Publication Number  
**WO 2004/113546 A3**

(51) International Patent Classification<sup>7</sup>: **C12N 15/82**,  
C07K 14/415, C12N 9/90, A01H 5/00, 5/08, 5/10

(21) International Application Number:  
PCT/PT2004/000015

(22) International Filing Date: 25 June 2004 (25.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
102979S 26 June 2003 (26.06.2003) PT

(71) Applicant (for all designated States except US): **CASTANIA SOCIEDADE AGROFLORESTAL, S.A.** [PT/PT]; Quinta de Vila Boa de Arufe, Apartado 206, 5301-903 Rebordainos, Bragança (PT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **TRAQUETE SER-RAZINA**, Susana Maria [PT/PT]; Rua de Bica do Sapato, n°48, 5°Dt°, 1100-094 Lisboa (PT). **MATIAS FONSECA**, Sandra Cristina [PT/PT]; Parque Residencial do Almirante, Lote 16, 3°D, ponte de Frielas, 2670 Loures (PT). **SOARES PAIS**, Maria Salomé [PT/PT]; Edifício ICAT - Campo Grande, P-1449-016 Lisboa (PT). **BALDÉ**, Aladje [GW/PT]; Av. General Humberto Delgado, n° 5, 10° B, 2745 Monte Abraão, Queluz - Sintra (PT).

(74) Agent: **RIBEIRO CARDOSO**, Vítor, Luís; Rua Morgado de Setúbal, 65, 3°Dt°, P-2910-672 Setúbal (PT).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:  
14 April 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **CASTANEA SATIVA** MILL. GENES CODIFYING FOR ALLENE OXIDE CYCLASE, CYSTATIN,  $\beta$ -1,3-GLUCANASE AND THAUMATIN-LIKE PROTEIN AND THEIR USE

(57) Abstract: This invention provides isolated and purified nucleotide sequences which are differentially expressed during chestnut infection with the pathogenic fungus *Phytophthora cinnamomi* Rands. The isolated genes can be inserted into expression cassettes and cloned in an expression vector which can be used to transform a host cell by selected transformation methods. Transgenic plants can be regenerated from transformed plant cells by *in vitro* culture techniques. The nucleotide sequences disclosed in this invention encode proteins which are described as having an effective action in plant resistance to pathogenic fungi. When used in sense orientation they can delay or even prevent plant infection, bringing important advantages for chestnut, cork-oak or other woody tree species' producers.

WO 2004/113546 A3